TECHNICAL NOTES

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Early Development of Native and Hybrid Aspens

In April 1951, 50 trees each of 3 lots of aspen were planted on the Argonne Experimental Forest in northeastern Wisconsin on an area which had been disked and then fenced to keep out rabbits and deer. No subsequent cultivation was done, and a fairly dense sod has developed. One lot was native aspen of local origin, one was a cross between the native and the European aspen, and one was a cross between native aspens from widely separated localities. The hybrids were developed and furnished by Dr. Scott Pauley of the Maria Moors Cabot Foundation, Petersham, Massachusetts.

Survival counts and height measurements made in the fall of 1953 and 1954 are shown in the table below:

Description and designation	Survival		Average Height		Height of tallest tree--1954
	Third year	Fourth year	Third year	Fourth year	
	Percent	Percent	Feet	Feet	Feet
Populus tremuloides of Mass. origin X P. tremula of German origin near Munich (187 x 9)	88	82	4.8	6.1	11.0
P. tremuloides from Forest County, Wisconsin (Native)	74	56	3.3	5.2	9.3
P. tremuloides of Mass. origin X P. tremuloides from Colorado (187 x 1931)	36	22	1.7	2.1	2.8

The hybrid (187 x 9) involving two species has survived and grown best. It also has been able to compete with sod--a characteristic usually lacking in cottonwoods and poplars. The cross, however, is of somewhat poorer form than the native aspen, the former having 46 percent of the trees at the end of the third year rated as forked or heavy-limbed. The plants from cross 187 x 1931 have survived and grown poorly. They have a tendency to cease growth earlier, and to lose their leaves some two weeks earlier than the other two lots.

Trees of the local native aspen were intermediate in growth and survival, and had the best form of any of the three lots tested. Height growth of the native aspen during the fourth year was greater than that of the inter-species hybrid (187 x 9). Should this trend continue, the local stock might surpass the inter-species hybrid in height growth. The survival trend, however, still seems to favor the inter-species hybrid, as does live stem production expressed as the product of survival times average height.

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MAINTAINED AT ST. PAUL 1, MINNESOTA, IN COOPERATION WITH THE UNIVERSITY OF MINNESOTA